

**FISH AND WILDLIFE SERVICE  
OCCUPATIONAL SAFETY AND HEALTH**

**Occupational Safety and Health**

**Part 241 Safety Operations**

**Chapter 12 Chain Saw Safety**

**241 FW 12**

**12.1 What is the purpose of this chapter?** This chapter describes the U.S. Fish and Wildlife Service (Service) requirements and responsibilities for providing equipment and training that will protect you from hazards you may encounter while using a chain saw.

**12.2 What is the Service policy for using chain saws?** Our policy is to prevent occupational injury, illness, or property damage associated with use of chain saws by establishing safe and effective procedures and controls to guard against and minimize mishaps.

**12.3 What is the scope of this chapter?**

**A.** This chapter covers the use of chain saws for non-fire operations by:

**(1)** Service employees, and

**(2)** Service volunteers.

**B.** This chapter does not cover:

**(1)** Contractors. Contractors must comply with the safety and health clauses in their contract agreements and with Federal, State, and local requirements.

**(2)** Service fire management operations. We describe the requirements for Service fire management operations in separate Service safety chapters (see 621 FW 1).

**12.4 What are the authorities for this chapter?**

**A.** Occupational Safety and Health Act (of 1970) Federal Agency Safety Programs and Responsibilities (Public Law 91-596, Sec. 19).

**B.** Occupational Safety and Health Administration (OSHA) Standards, Occupational Safety and Health Standards (29 CFR 1910).

**C.** OSHA Standards, Logging Operations (29 CFR 1910.266).

**D.** OSHA Standards, Safety and Health Regulations for Construction (29 CFR 1926).

**E.** Basic Program Elements for Federal Employee Occupational Safety & Health Programs and Related Matters (29 CFR 1960).

**F.** Executive Order 12196, Occupational Safety and Health Programs for Federal Employees.

**G.** American National Standards Institute (ANSI) Standard B175.1, Safety Requirements for Gasoline-Powered Chain Saws.

**12.5 What terms do you need to know to understand this chapter?**

**A. Brushing:** Removing brush and shrubs to clear out an area. Cutting tree and brush material that is less than 8 inches in diameter and less than 10 feet in height.

**B. Bucking:** Sawing trees and limbs into shorter lengths.

**C. DBH:** Diameter of a tree at breast height (4½ feet above ground level).

**FISH AND WILDLIFE SERVICE  
OCCUPATIONAL SAFETY AND HEALTH**

**Occupational Safety and Health**

**Part 241 Safety Operations**

**Chapter 12 Chain Saw Safety**

**241 FW 12**

**D. Escape route:** The escape route consists of an “escape path” and an “alternate path.” Each path should lead diagonally away from the expected felling line (forming a 45-degree angle between the two clear pathways) directly into the safe zone.

**E. Faller:** A person authorized to fell trees.

**F. Felling:** Cutting down trees and brush materials that are over 10 feet tall or greater than 8 inches in diameter, or both.

**G. Limbing:** Removing the branches from a felled or standing tree.

**H. Safe zone:** An area away from the tree you plan to fell and in the quadrant opposite the planned fall direction of the tree. The escape path and the alternate path lead to the safe zone.

**I. Sawyer:** An authorized chain saw operator who limbs, bucks, and fells trees.

**12.6 Who is responsible for the chain saw safety program?** Table 12-1 shows who is responsible for the Service chain saw safety program.

<b>Table 12-1: Responsibilities for the Chain Saw Safety Program</b>	
<b>This official...</b>	<b>Is responsible for...</b>
<b>A. The Director</b>	(1) Ensuring the Service maintains an effective and comprehensive occupational safety and health program, and  (2) Approving our chain saw safety program policy.
<b>B. The Assistant Director - Business Management and Operations</b>	(1) Ensuring we have an effective chain saw safety program, and  (2) Providing sufficient support and resources to the Chief, Division of Safety and Health, to ensure that the Chief can effectively accomplish program goals.
<b>C. Regional Directors and the Director, National Conservation Training Center</b>	Ensuring there are sufficient resources and support in place to implement an effective and comprehensive chain saw safety program within their areas of responsibility.
<b>D. The Chief, Division of Safety and Health</b>	(1) Revising and updating this chapter, as necessary, and  (2) Interpreting the requirements in this chapter and resolving Servicewide issues and questions about our chain saw safety program.
<b>E. Regional Safety Managers</b>	(1) Advising Project Leaders/supervisors/facility managers and Collateral Duty Safety Officers on the implementation of our chain saw safety program in their Regions,  (2) Interpreting program requirements and resolving Regionwide issues and questions,  (3) Reviewing workplace assessments and advising Project Leaders/supervisors/facility managers to help them determine the need for chain saw safety, and  (4) Providing guidance to Project Leaders/supervisors/facility managers on the following:

**FISH AND WILDLIFE SERVICE  
OCCUPATIONAL SAFETY AND HEALTH**

**Occupational Safety and Health**

**Part 241 Safety Operations**

**Chapter 12 Chain Saw Safety**

**241 FW 12**

**Table 12-1: Responsibilities for the Chain Saw Safety Program**

This official...	Is responsible for...
	<p>(a) Using engineering or administrative controls when workers are, or may be, exposed to chemical, physical, or biological hazards at or above established permissible exposure limits or threshold limit values when using saws on the job,</p> <p>(b) Buying and using personal protective equipment when engineering and administrative controls are not adequate (see section 12.12 and 241 FW 3), and</p> <p>(c) Evaluating the management of chain saw use, training, and personal protective equipment during field station safety program evaluations.</p>
<p><b>F. Project Leaders/Supervisors/Facility Managers</b></p>	<p>(1) Ensuring personnel who perform chain saw operations:</p> <p style="padding-left: 20px;">(a) Comply with this chapter when using chain saws on the job;</p> <p style="padding-left: 20px;">(b) Take training and are current in Cardiopulmonary Resuscitation (CPR) and standard first aid as required by a recognized certification program such as those the American Red Cross, American Heart Association, and National Safety Council sponsor;</p> <p style="padding-left: 20px;">(c) Qualify through training and experience to perform their particular function related to chain saw operations; and</p> <p style="padding-left: 20px;">(d) Do not exceed their authorization or experience level when operating a chain saw;</p> <p>(2) Entering information showing employees' completion of chain saw training, including refresher training, into the Department's Learning Management System (e.g., DOI Learn);</p> <p>(3) Issuing and, if necessary, revising or revoking chain saw authorization;</p> <p>(4) In conjunction with a competent operator, preparing a Job Hazard Assessment (JHA) (see 240 FW 1). Includes tasks to be performed, associated hazards, and required personal protective equipment for personnel subject to this policy.</p> <p>(5) Providing the necessary personal protective equipment (see section 12.12);</p> <p>(6) Providing access to medical service providers for those employees who get sick or experience ill effects from working with or being exposed to workplace hazards. We provide these medical services at no cost to the employee. Medical coverage must be consistent with the Federal Employee's Compensation Act (see 242 FW 4);</p> <p>(7) Including appropriate personal exposure sampling data in employee medical files. Appropriate sampling data is information we collect to comply with OSHA regulations (e.g., audiograms [see 242 FW 3]);</p> <p>(8) Ensuring storage, inventory, and physical inspection of chain saws and chain saw support equipment are, at a minimum, included as part of the facility inspection cycle; and</p>

**FISH AND WILDLIFE SERVICE  
OCCUPATIONAL SAFETY AND HEALTH**

**Occupational Safety and Health**

**Part 241 Safety Operations**

**Chapter 12 Chain Saw Safety**

**241 FW 12**

<b>Table 12-1: Responsibilities for the Chain Saw Safety Program</b>	
<b>This official...</b>	<b>Is responsible for...</b>
	<b>(9)</b> Ensuring Material Safety Data Sheets (MSDS) are available for each product used in association with chain saw operations.
<b>G. Contracting Officers</b>	Ensuring that any contracts for chain saw operations or chain saw-related materials contain the appropriate safety clauses and meet Federal, State, and local requirements.
<b>H. Employees</b>	<b>(1)</b> Complying with this chapter and the authorities for this chapter in section 12.4 when working with chain saws;  <b>(2)</b> Successfully completing and maintaining current CPR, standard first aid, and chain saw training and training documentation specific to their responsibilities;  <b>(3)</b> Wearing and maintaining personal protective equipment to reduce or eliminate potential workplace exposures;  <b>(4)</b> Notifying their Project Leader/supervisor/facility manager if they are experiencing any adverse health effects;  <b>(5)</b> Not eating, smoking, or drinking in or near the work area where chemicals, hazardous materials, or chain saws are stored, transported, or used;  <b>(6)</b> Using every reasonable precaution to ensure the safety and security of other personnel and the general public;  <b>(7)</b> Immediately reporting to their Project Leader/supervisor/facility manager any theft or loss of any chain saws or related equipment; and  <b>(8)</b> Regardless of their experience or qualifications, when preparing to use a chain saw, considering all the factors of the job to determine if the level of risk is acceptable. If the level of risk is not acceptable, the operator has the responsibility to walk away.

**12.7 What are the training requirements for chain saw operation?** All Service employees who may use chain saws as part of their duties must receive training and demonstrate proficiency before they operate a chain saw.

**A. Chain Saw Course Requirements:**

**(1) New operators:** All new Service chain saw operators must take the S-212 Wildland Fire Chain Saws course or approved alternative chain saw course (see section 3 below) within 6 months of employment.

**(a)** During the 6-month interim period, new Service chain saw operators may operate chains saws if they:

**(i)** Have experience,

**(ii)** Can demonstrate their capabilities to an intermediate or advanced sawyer, and

**FISH AND WILDLIFE SERVICE  
OCCUPATIONAL SAFETY AND HEALTH**

**Occupational Safety and Health**

**Part 241 Safety Operations**

**Chapter 12 Chain Saw Safety**

**241 FW 12**

(iii) Work under the direct and observed supervision of an intermediate or advanced sawyer.

(b) The Project Leader/supervisor/facility manager must sign the Chain Saw Operator Authorization Form (FWS Form 3-2412) before the new operator may use the chain saw.

**(2) Existing Chain Saw Operators:** With their Project Leader/supervisor/facility manager's approval, current chain saw operators who have required CPR and first aid training, have documentation of previously attending chain saw training, and have demonstrated chain saw proficiency may be authorized to become a chain saw operator. Current chain saw operators who do not have documented chain saw training have 2 years from the date of publication of this policy to attend S-212 or an alternate chain saw course. The Project Leader/supervisor/facility manager must sign the Chain Saw Operator Authorization Form (FWS Form 3-2412) before the employee may continue to operate the chain saw.

**(3) Details about S-212 and Alternate Courses:**

(a) The S-212 Wildland Fire Chain Saws course that non-fire chain saw operators take may include only the portions appropriate to non-fire duties. Non-fire operators do not have to meet the S-212 prerequisites, such as Firefighter Type 2, S-130 (Firefighter Training) and S-190 (Introduction to Wildland Fire Behavior).

(b) The Project Leader/supervisor/facility manager and the Regional Safety Manager must approve, in advance, requests for alternative training to the S-212 Wildland Fire Chain Saw course. An approved alternative chain saw course must, at a minimum, meet all of the criteria of the S-212 course, with the exception of fire-related duties. Training field exercises must include Faller Class A duties appropriate for non-fire duties (see Table 12-2).

**B. Annual Chain Saw Refresher Training:** All authorized chain saw operators must complete RT-212 - Annual Chain Saw Refresher Training, as described in Exhibit 1. Existing chain saw operators must complete refresher training within 1 year from the date of the publication of this policy. Project Leaders/supervisors/facility managers must keep refresher training documentation in the employee's training records.

**12.8 What does the Service use to show that an employee has authorization to use a chain saw?**

After successfully completing S-212 or an approved alternative chain saw operator training course, an authorized instructor will give the chain saw operator a signed certificate or other proof of course completion. The operator must provide this documentation to his/her Project Leader/supervisor/facility manager. The Project Leader/supervisor/facility manager must then complete the Chain Saw Operator Authorization Form (FWS Form 3-2412) and keep all the training documentation in the employee's training records.

**12.9 How does the Service classify chain saw operators, and what do those classifications mean?**

**A.** Project Leaders/supervisors/facility managers must ensure that any employee who operates a chain saw is in compliance with Table 12-2, Service Chain Saw Skill Classification System.

**B.** Employees trained to S-212 standards without completing the faller position task books (available on the [Web](#)) appropriate to non-fire duties must limit their activities to Faller Class A standards and work under the supervision of a Faller Class B or C. To be classified as a Faller Class A, B, or C, employees must complete the task book portions for the appropriate non-fire duties for each classification. Until an employee completes the Faller Class A task book, the employee is a trainee Faller Class A.

**FISH AND WILDLIFE SERVICE  
OCCUPATIONAL SAFETY AND HEALTH**

**Occupational Safety and Health**

**Part 241 Safety Operations**

**Chapter 12 Chain Saw Safety**

**241 FW 12**

**C.** For a chain saw operator to be authorized as a Faller Class A, B, or C,

**(1)** The chain saw operator must:

**(a)** Complete the necessary position task book and Chain Saw Operation Field Evaluation Form (FWS Form 3-2413),

**(b)** Get an evaluator to sign the form, and

**(c)** Give the form to his/her Project Leader/supervisor/facility manager.

**(2)** The Project Leader/supervisor/facility manager must:

**(a)** Complete the Chain Saw Operator Authorization Form (FWS Form 3-2412), and

**(b)** Keep the training documentation, position task books, Chain Saw Operation Field Evaluation Form, and the Chain Saw Operator Authorization Form in the employee's training records.

**D.** Table 12-2 describes the classifications.

<b>Table 12-2: Service Chain Saw Skill Classification System</b>	
<b>Faller Classifications</b>	<b>Description</b>
Class A - Apprentice Sawyer (low complexity)	An individual trained or evaluated at the introductory level for noncomplex chain saw operations. These fallers have completed the S-212 (or equivalent training) classroom and field training for general saw work (such as cutting, brushing, and bucking, and the first basic steps in felling). ► "A" positions can fell, limb, and buck trees up to 8 inches DBH*. ► An authorized Class B or C operator must verify that the operator completed the tasks required for this position task book and perform the final evaluation for Class A operations.
Class B – Intermediate Sawyer (moderate complexity)	An individual who has been authorized as a Faller Class A level and has demonstrated sufficient judgment, skill, and knowledge to be trained and authorized in moderately complex chain saw operations. They have demonstrated that they possess the judgment to assess and decline assignments that exceed their skill level. ► "B" positions can fell, limb, and buck trees up to 24 inches DBH*. ► Those authorized at the Faller Class B level may work independently on projects/assignments up to their level of skill. ► An authorized Class B or C operator must verify that the operator completed the tasks required for this position task book and perform the final evaluation.
Class C – Advanced Sawyer (high complexity)	An individual who has demonstrated judgment and proficiency in correctly handling complex sawing and felling in wildland fire operations. Class C Fallers are approved to handle complex sawing and felling operations. ► "C" positions have no limit on tree size, yet retain the right that all chain saw operators have to walk away from a tree if a risk analysis warrants it. ► An authorized Class C operator must verify that the operator

**FISH AND WILDLIFE SERVICE  
OCCUPATIONAL SAFETY AND HEALTH**

**Occupational Safety and Health**

**Part 241 Safety Operations**

**Chapter 12 Chain Saw Safety**

**241 FW 12**

Table 12-2: Service Chain Saw Skill Classification System	
Faller Classifications	Description
	completed the tasks required for this position task book and perform the final evaluation.

\* DBH measurements are not the only determining factor in the complexity of tree felling operations. We expect chain saw operators to thoroughly assess each tree and determine the extent of qualification required to safely perform a felling, limbing, or bucking operation.

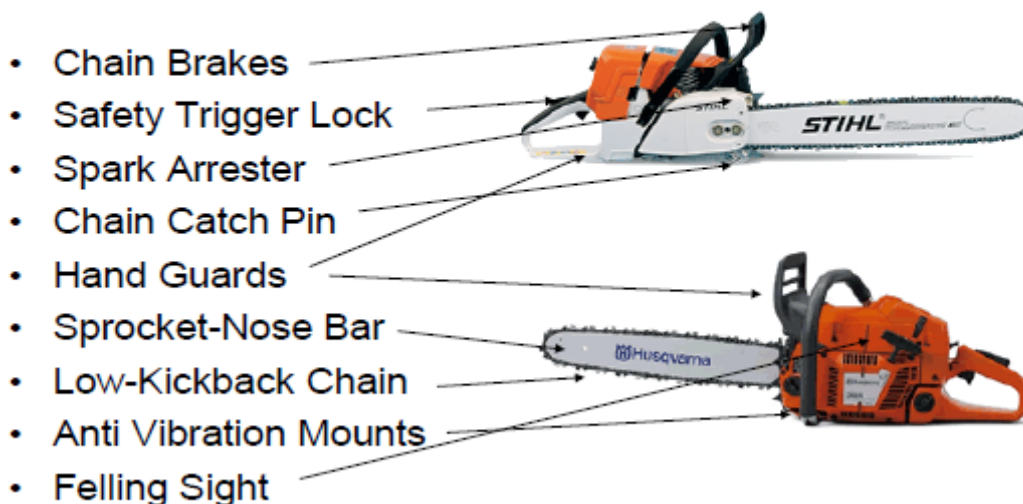
**12.10 What are the general operational requirements for chain saw operators?** Operators must:

- A.** Use chain saws only within their authorized faller classification (Table 12-2),
- B.** Use chain saws within manufactured specifications,
- C.** Maintain chain saws to manufacturers' specifications, and
- D.** Store and transport chain saws properly.

**12.11 What are the equipment specifications for chain saws?** Operators may only use chain saws that meet the following specifications (also see Figure 12-1):

- A.** Chain saws that are maintained in a serviceable condition.
- B.** Chain saws that meet the current ANSI safety standards B175.1. If a saw does not meet these standards, the responsible Project Leader/supervisor/facility manager must remove it from service.
- C.** Chain saws that comply with OSHA's 29 CFR 1910.266 to include the following safety components:
  - (1) The Right Chains.** Use the right chain for the job. Consider the complexity of the cut, the saw, and operator skill level (e.g., low kick-back chain for less experienced sawyers or skip-type chain for larger trees and more experienced sawyers).
  - (2) Chain Brakes.** Test the chain breaks before each use. Apply chain brakes when you start the saw.
  - (3) Anti-Vibration Device(s).** Consult the owner's manual. All saws manufactured after 1991 should have this built into the saw.
  - (4) Safety Trigger Lock.** This lock prevents the throttle from engaging unless a throttle interlock is depressed on the handle.
  - (5) Chain Catch Pin.** This pin is on the underside of the saw below the base of the bar. It stops the chain from being expelled if the chain breaks.
  - (6) Spark Arrester.** This device is on the exhaust system and reduces the fire hazard.
  - (7) Carrying Case or Chain Guard.** Use either a case or a guard to transport and store the saw to protect you and others from injury.
  - (8) Hand Guards.** These guards are on the throttle handle and chain saw guide handle (may be incorporated with chain brake).

Figure 12-1:  
**CHAINSAW SAFETY FEATURES**



D. Felling and bucking equipment:

**(1) Full Wrap Around Handlebar.** We recommend you use a full wrap around handle bar for felling operations.

**(2) Bumper Spikes (Dogs).** You must use felling and bucking spikes (dogs) for Class B and C felling operations. We recommend using felling and bucking spikes for bucking operations.

#### 12.12 What are the standards for personal protective equipment (PPE) and its maintenance?

**A.** Project Leaders/supervisors/facility managers must issue all required PPE to chain saw operators prior to chain saw use.

**B.** All PPE must be designed and constructed for the work you perform.

**C.** Your Project Leader/supervisor/facility manager must:

**(1)** Complete a JHA for jobs that may require you to use non-standard PPE, and

**(2)** Purchase only PPE that meets ANSI, National Institute for Occupational Safety and Health (NIOSH), or equivalent industry standards for chain saw operations and ensure it meets the standards when they receive it.

**D.** Either the operator or another designated employee must maintain all equipment in serviceable condition according to the manufacturers' operating manuals and maintenance instructions. The operator must always inspect equipment before use during each work shift.



**FISH AND WILDLIFE SERVICE  
OCCUPATIONAL SAFETY AND HEALTH**

**Occupational Safety and Health**

**Part 241 Safety Operations**

**Chapter 12 Chain Saw Safety**

**241 FW 12**

**12.13 What PPE must operators use?** Table 12-3 describes the required PPE and any other information essential to its use. Consult this table and the operator's manual specific to the make and model of chain saw when developing a JHA for chain saw operations.

<b>Table 12-3: Required PPE for Chain Saw Operation</b>		
<b>PPE</b>	<b>Required types</b>	<b>Other Essential Information</b>
<b>A. Hand protection</b>	<ul style="list-style-type: none"> <li>• Wear quality leather gloves consistent with weather conditions.</li> <li>• Do not use gauntlet-type gloves.</li> <li>• Wear anti-vibration (padded palm) gloves for long-duration cutting projects.</li> </ul>	<ul style="list-style-type: none"> <li>• We recommend cut-resistant Kevlar or ballistic nylon gloves for operators who use a chain saw frequently.</li> </ul>
<b>B. Eye and face protection*</b>	<ul style="list-style-type: none"> <li>• Wear ANSI Z87.1-approved eye protection (safety glasses or shield).</li> </ul>	<ul style="list-style-type: none"> <li>• We recommend wearing a logger type mesh screen attached to your helmet; safety glasses or goggles alone do not protect your face.</li> <li>• You can use clear shields, but they scratch easily and fog up in humid conditions.</li> </ul>
<b>C. Head protection*</b>	<ul style="list-style-type: none"> <li>• Wear ANSI Z89-approved type I, class "E" and "G" hard hat.</li> <li>• Inspect the hard hat before use and replace it according to the manufacturer's specifications.</li> </ul>	<ul style="list-style-type: none"> <li>• The hard hat must include an annotation that it meets the ANSI standard.</li> </ul>
<b>D. Hearing protection*</b>	<ul style="list-style-type: none"> <li>• Wear ear plugs, ear muffs, or both.</li> </ul>	<ul style="list-style-type: none"> <li>• Properly fitted ear plugs provide the greatest level of noise reduction, and muffs can provide additional protection from cuts from brush.</li> <li>• Some saws operate at higher decibels, and if you operate the saw for extended periods, you may require double hearing protection.</li> <li>• Chain saw operation falls within the OSHA hearing loss prevention standards. See 242 FW 3 for information about noise level monitoring and audiometric testing.</li> <li>• Consult the Regional Safety Office for assistance.</li> </ul>
<b>E. Foot protection</b>	<ul style="list-style-type: none"> <li>• At a minimum, wear heavy duty leather or cut resistant boots that:               <ul style="list-style-type: none"> <li>-Cover and support your ankles, (we recommend 8-inch-high laced boots that are waterproof or water repellant), and</li> <li>-Have nonskid soles with adequate</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• We recommend cut-resistant Kevlar or ballistic nylon logger boots for operators who use a chain saw frequently. These boots provide better protection from a direct strike of the chain.</li> <li>• Steel toed waders are available for</li> </ul>

**FISH AND WILDLIFE SERVICE  
OCCUPATIONAL SAFETY AND HEALTH**

**Occupational Safety and Health**

**Part 241 Safety Operations**

**Chapter 12 Chain Saw Safety**

**241 FW 12**

<b>Table 12-3: Required PPE for Chain Saw Operation</b>		
<b>PPE</b>	<b>Required types</b>	<b>Other Essential Information</b>
	<p>treads for the conditions.</p> <ul style="list-style-type: none"> <li>• We recommend steel toed boots but don't require them because for some operations (working in extreme heat or cold), steel toed boots may not be prudent due to the transfer of heat or cold to the foot.</li> <li>• If you do not wear safety boots because of the operation, your Project Leader/supervisor/facility manager must conduct a JHA. The JHA must show that there are minimal hazards to the foot for this particular job, such as logs falling, and describe other precautions to use to reduce exposure.</li> </ul>	<p>working in water. <b>Remember to clearly label them so they are not used for electrofishing.</b></p>
<b>F. Leg protection</b>	<ul style="list-style-type: none"> <li>• At a minimum, wear Service-provided cut resistant logger chaps made with Kevlar or ballistic nylon.</li> <li>• Chaps must meet U.S. Forest Service Specification 6170-4F (Jan 2000 or newer). The 6170-4F specification provides a higher level of protection or cut resistance of up to 3,200 feet per minute (fpm) chain speed.</li> <li>• The chaps must: <ul style="list-style-type: none"> <li>-Cover the full length of the thigh to 2</li> <li>-Provide <math>\frac{3}{4}</math> (leg front and side) coverage, and</li> <li>-Allow no gaps between the top of the boot and the chaps.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Almost 50% of chain saw injuries occur to the legs.</li> <li>• Logger pants are also available for maximum protection. These pants provide better protection than the standard logger chaps and are more comfortable to wear in hot weather than the full coverage type chaps.</li> </ul> <p><b>WARNING:</b> Additional operator caution is necessary when using an electric chain saw because chap fibers will not stop the higher constant torque. You must also consider electrocution hazards.</p>

\*Logger type hard hats are available that offer sufficient eye, face, head, and hearing protection to meet these requirements. For ease of use, logger hard hats have built-in ear muffs and a mesh face-screen.

**12.14 What other requirements do chain saw operators have to follow?**

**A. Risk Analysis.** All chain saw operators, regardless of experience or qualifications, must thoroughly analyze tasks to determine if the level of risk is acceptable. If the level of risk is not acceptable, the operator must walk away. Operators should consider alternative solutions to risky operations, such as using heavy equipment, a contractor, or explosives. Also seek guidance from experienced sawyers.

**B. Working Alone.** All chain saw operators should work in a position or location that is within visual or audible contact with another employee/operator. When situations arise when a sawyer must work alone, such as incidental work to remove a single tree or limbs blocking a roadway passage, the sawyer must:

- (1) Be trained in evaluating complex bucking, sawing, and felling conditions and in hazardous tree

**FISH AND WILDLIFE SERVICE  
OCCUPATIONAL SAFETY AND HEALTH**

**Occupational Safety and Health**

**Part 241 Safety Operations**

**Chapter 12 Chain Saw Safety**

**241 FW 12**

operations;

(2) Have adequate radio or cell phone communications;

(3) Notify someone in a dispatch office, an administrative office, or on another part of the station of the situation and when work will begin; and

(4) Establish a check-in procedure for when the task is complete.

**C. Observers and Spotters.** No employee may approach a sawyer closer than two and one-half times the height of the trees being felled until the sawyer acknowledges that it is safe to do so, unless a team of sawyers is necessary to fell a particular tree. The lead sawyer will determine if spotters are needed during tree-felling operations.

**D. Escape Routes.** These are predetermined paths of exit used by sawyers when felling or bucking. The essential components of an escape route are selection of the desired direction and distance prior to felling or bucking, and a well cleared path through which to escape. Sawyers must select and prepare the work area by clearing a primary escape path as well as a secondary (alternate) route before starting the cut. When felling a tree, sawyers must be aware that the quadrant opposite the planned fall of the tree is extremely dangerous. Sawyers must choose an escape path that extends diagonally (45 degrees) away from the expected felling line, and always have an alternate retreat path to a safe zone.

**E. Safe Zones.** Sawyers must carefully plan the route from the stump to the safe zone. Safe zones should be no less than 20 feet from the stump. If possible, sawyers should stand behind another tree, preferably quartering back from the planned direction of the fall, and wait and watch at least 30 seconds after the tree hits the ground for whiplash branches and the scatter of broken tree parts.

**F. Medical Availability.** When chain saw operators are working in an area where medical assistance is not readily available (within 15-20 minutes), Project Leaders/supervisors/facility managers must ensure a written plan exists for emergency response actions. The plan must include information about the nearest medical clinic and medical response capabilities.

/sgd/ Paul R. Schmidt  
ACTING DIRECTOR

Date: November 10, 2010